UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/522,328	01/25/2005	Gopi Kumar Bulusu	DAD-0012	9213

23353 7590 08/28/2007

RADER FISHMAN & GRAUER PLLC
LION BUILDING
1233 20TH STREET N.W., SUITE 501
WASHINGTON, DC 20036

EXAMINER	
COLUCCI, MICHAEL C	

ART UNIT	PAPER NUMBER
2626	

MAIL DATE	DELIVERY MODE
08/28/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/522,328	BULUSU ET AL.	
	Examiner	Art Unit	
	Michael C. Colucci	2626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-2 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-2 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☒ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date 1/25/2005.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in **Graham v. John Deere Co., 383 U.S. 1, 148 USPQ 459 (1966)**, that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows: **(See MPEP Ch. 2141)**

a. Determining the scope and contents of the prior art;
b. Ascertaining the differences between the prior art and the claims in issue;
c. Resolving the level of ordinary skill in the pertinent art; and
d. Evaluating evidence of secondary considerations for indicating obviousness or nonobviousness.

2. Claim 1-2 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Williams US 5963742 A in view of Moore US 7027977 B2 and further in view of Newsted et al US 6016467 A (herein after Newsted).*

Re claim 1, "automatic translation" of "source language" to a "target language", the use of language implies that sentences will be present. Williams teaches a compiler used to translate a source program (written in the source language) translated into a target program (written in the target language) so that it may be executed on a computer (Williams col 1 line 10-16). A compiler implies automatic translation.

"Creating a unified grammar" for the grammars, where a unified grammar is construed as a group of grammar/production rules, Williams teaches a parser using a

set of rules for the language referring to the rules as context-free grammar / grammar rule / production (Williams col 1 line 24-52).

"Separating the input text" into a list of "tokens using a lexical analyser for the source language", Williams teaches a lexical analyzer that reads the source statements and separates each word, symbol or number from the source statement into a "token" (Williams col 1 line 24-52).

"Providing grammars of all languages" and a text in the source language as inputs, Williams teaches a structure imposed on the sequence of tokens using grammar rules (Williams col 1 line 24-52) as well as a parser accepting a subset of a context-free grammar / grammar rules (Williams col 1 line 53-67). Williams also defines the lexical analyzer reading source statements having words, symbols, and numbers (Williams col 1 line 24-52).

"Setting a non-terminal symbol" "to the start symbol of the unified grammar", Williams teaches terminal symbols and non-terminal symbols within a stack (Williams col 2 line 7-17) but fails to teach of a starting symbol. Moore teaches a non-terminal symbol used as the top symbol of the grammar (Moore col 5 line 64 to col 6 line 9). Therefore, the combined teaching of Williams and Moore would have rendered obvious the use of a non-terminal symbol as a start symbol within a set of production/grammar rules.

"Obtaining a set of grammar production rules" that define rules, Williams teaches a parser imposing a structure on the sequence of tokens using a set of rules appropriate for the language where such rules are referred to as a context-free grammar and

grammar rule may be referred to as "production" (Williams col 1 line 24-52). "Rules to reduce a string of terminal symbols to the target non-terminal symbol" from the unified grammar specification, Williams teaches a lexical analyzer that reads the source statements and separates each word, symbol or number from the source statement into a "token" (Williams col 1 line 24-52). However Williams fails to teach the use of terminal symbols and non-terminal symbols used with a unified grammar. Moore teaches terminal symbols and non-terminal symbols being equivalent to tokens of the language and are also referred to as predictions (can be terminal or non-terminal), which comprise a context free (Moore col 1 line 39-47). Therefore, the combined teaching of Williams and Moore would have rendered obvious reduction of a string of terminal or non-terminal to non-terminal symbols in the target language using grammar rules.

"Taking each symbol one by one from a list of terminal symbols" corresponding to the "source language grammar", Williams teaches a driver program reading tokens one at a time from the input stream (Williams col 1 line 53-67). However Williams fails to teach a list or table of symbols. Newsted teaches a token name table which contains those lexical symbols which are terminal symbols (Newsted col 8 line 14-24). "Determining whether it is a terminal symbol or a non-terminal symbol", Newsted teaches the token name table used by the grammar sensitive editor to distinguish terminal symbols from nonterminal symbols (Newsted col 8 line 14-24). Therefore, the combined teaching of Williams, Moore, and Newsted would have rendered obvious parsing symbols one at a time and determining whether each symbol is terminal or non-terminal.

Step (VII) is construed to be the repetition of step (VI) in order to consider the next symbol (indexing elements in the list) within the list of terminal symbols. Moore teaches terminal symbols and non-terminal symbols being equivalent to tokens of the language and are referred to as predictions (can be terminal or non-terminal), which comprise a context free (Moore col 1 line 39-47). "Repeating step (V) onwards with new non-terminal symbol", Moore teaches a process of determining inconsistencies between grammar production and predictions, where the process is repeated until a match is found or no predictions (symbols are left) (Moore col 9 line 3-18), implying the consideration of each symbol within a table/list/group of symbols. However Williams and Moore both fail to teach "symbols corresponding to grammar". Newsted teaches grammar rules repetitively applied to each nonterminal symbol (Newsted col 6 line 43-55). Therefore, the combined teaching of Williams, Moore and Newsted would have rendered obvious the determination of a symbol being terminal or non-terminal by indexing new symbols within a list of symbols.

"All symbols in the said list of terminal symbols" matches with "all symbols in the list of tokens", Moore teaches terminal symbols and non-terminal symbols being equivalent to tokens of the language and are also referred to as predictions (can be terminal or non-terminal), which comprise a context free grammar (Moore col 1 line 39-47). Moore also teaches the satisfaction of a test where if the production grammar (Mother) is a left most symbol (left corner) of the prediction (another type of symbol in a group of symbols) (Moore col. 9 line 3-18). However Williams and Moore both fails to teach a relationship between input (source), output (target), and references (tables).

Newsted teaches an input BNF file, which is analyzed with respect to a grammar rule table, token-name table, and cross reference table where a syntax analysis is produced (Newsted Fig. 7). "Obtaining a list of symbols" corresponding to the "target language grammar" from the "unified grammar production rule ", where a unified grammar is construed as a group of grammar/production rules, Williams teaches a parser using a set of rules for the language referring to the rules as context-free grammar / grammar rule / production (Williams col 1 line 24-52). However Williams fails to teach the creation of a symbol list after checking for a match. Moore teaches the creation of a chart of symbols matches after the comparison of symbols in a grammar (Moore Fig. 3C). "For those symbols which do not match, repeating step (vi) onwards for the next unified grammar production rule" for the non-terminal symbol, Williams teaches entry points representing a complete statement corresponding to a production or parsing rule (Williams col 9 line 26-36). This implies that when a new entry point is considered, a new production is used. However Williams fails to teach the repetition of a sequence if a match is not present. Moore teaches a checking scheme to see if symbols match, where symbols that do match are not added to the chart of symbols and remaining the predictions (symbols) are checked until all matches have been added to a symbol chart (Moore Fig. 3C). Therefore, the combined teaching of Williams, Moore and Newsted would have rendered obvious checking symbols and tokens to see if there is a proper match within the source and target grammars to create a list of all matching symbols.

Step (ix) is taught within step (vi) but applied to a target language. Newsted teaches

Step (x) is taught within step (vii), where the next symbol is considered in a list of non-terminal symbols. "Obtaining another unified grammar production rule" and repeating the previous step with the new production rule until all symbols in the list have been exhausted, Williams teaches entry points representing a complete statement corresponding to a production or parsing rule (Williams col 9 line 26-36). This implies that when a new entry point is considered, a new production is used. However Williams fails to teach the repetition of a sequence if a match is not present. Moore teaches a checking scheme to see if symbols match, where symbols that do match are not added to the chart of symbols and the remaining predictions (symbols) are checked until all matches have been added to a symbol chart (Moore Fig. 3C). Newsted teaches grammar rules repetitively applied to each nonterminal symbol until all nonterminal symbols have been expanded and replaced with terminal symbols (Newsted col 6 line 43-55). This process implies use of all grammar rules applied each time to produce strings (Newsted col 7 line 27-50).

Therefore, the combined teaching of Williams, Moore, and Newsted would have rendered obvious checking symbols one by one and tokens with a new production rule each time and repeating the process with the new production rules and new symbols until the list of grammars/symbols is exhausted for both source and target language grammars.

Re claim 2 step (i), where a unified production rule is construed as an ordered amalgam of rules within the unified grammar, Williams teaches the use of a target language (Williams col 1 line 10-17) that will be broken down into symbols/tokens

(Williams col 1 line 24-52). Williams also teaches the use of a set of grammar rules that generate tokens (Williams col 1 line 24-52), a group of rules is construed as a unified grammar/production and the rules within the unified grammar are construed as unified production / production / grammar rules. However Williams fails to teach having "target non-terminal symbols" of the production rule. Newsted teaches a grammar being defined by a set of non-terminal symbols, a set of grammar rules, and a start symbol (Newsted col 6 line 43-55).

Step (ii) is taught within step (i), where each grammar has a production rule implying the step (i) performed on the production rule of the grammars. Moore teaches a process where a chart is updated based on a checking scheme to see if symbols match, where symbols that do match are not added to the chart of symbols and remaining the predictions (symbols) are checked until all matches have been added to a symbol chart (Moore Fig. 3C). "Repeating previous step", Newsted teaches grammar rules repetitively applied to each nonterminal symbol (Newsted col 6 line 43-55) as well as a grammar rule table applied to user input tokens (Newsted fig. 7). Newsted teaches an input BNF file, which is analyzed with respect to a grammar rule table, token-name table, and cross reference table where a syntax analysis is produced (Newsted Fig. 7), where a table of rules implies that each rule is repetitively considered within the table. Therefore, the combined teaching of Williams, Moore, and Newsted would have rendered obvious for every production rule of each grammar creating a list of non-terminal symbols for the unified production rule within the unified grammar and repeating this process for each production rule.

Examiner's Note

The referenced citations made in the rejection(s) above are intended to exemplify areas in the prior art document(s) in which the examiner believed are the most relevant to the claimed subject matter. However, it is incumbent upon the applicant to analyze the prior art document(s) in its/their entirety since other areas of the document(s) may be relied upon at a later time to substantiate examiner's rationale of record. A prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention. W.L. Gore & associates, Inc. v. Garlock, Inc., 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983), cert. denied, 469 U.S. 851 (1984). However, "the prior art's mere disclosure of more than one alternative does not constitute a teaching away from any of these alternatives because such disclosure does not criticize, discredit, or otherwise discourage the solution claimed...." In re Fulton, 391 F.3d 1195, 1201, 73 USPQ2d 1141, 1146 (Fed. Cir. 2004).

Contact

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael C. Colucci whose telephone number is (571)-270-1847. The examiner can normally be reached on 7:30 am - 5:00 pm, Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richemond Dorvil can be reached on (571)-272-7332. The fax phone

number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Michael Colucci Jr.
Patent Examiner
AU 2626
(571)-270-1847
Michael.Colucci@uspto.gov

RICHEMOND DORVIL
SUPERVISORY PATENT EXAMINER